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No. 18

An
Inaugural Essay

On
Cholera Infantum: ^{Described}

By
James B. Claiborne,

Of
Virginia.

Philadelphia J. W. & L. Walnut

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Cholera Infantum.

It is a source of regret, that this disease, at the same time truly interesting and highly terrific in character, should have been so little noticed in the writings of those who have been most conversant with it in practice. I have to lament that in addition to the paucity of essays on this subject, that from the difficulty of obtaining books, and the limited time which I have been able to devote to it, I have only been permitted to consult a very small portion of what has been written on the subject. It is, however, considered equally a duty and a pleasure to acknowledge, that, from such as have come within my reach, as far as time and opportunity would allow, I have endeavoured to collect such information, as appeared calculated to assist me in an inquiry so interesting, and one, which I have thought would be improving to myself. Convinced as I am that it would be presumption, for a student whose reading is limited, and who has not the opportunity of applying what

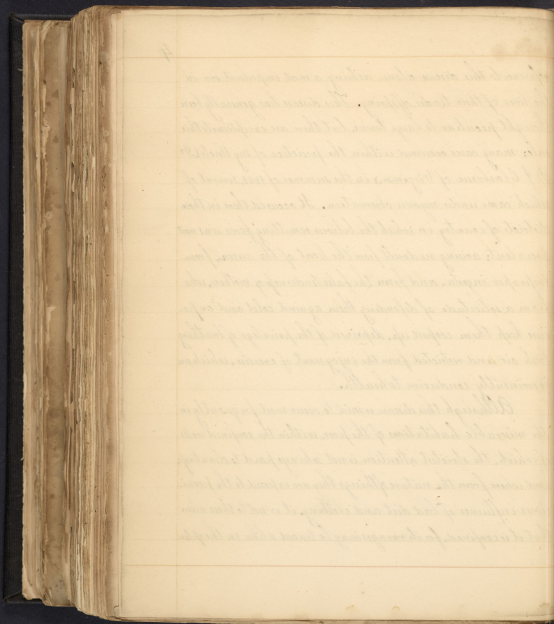
he does read, to expect to do more than to collect the opinions of the best writers, and endeavour to select them from such as appear reasonable and in accordance with established principles, and having done this to arrive at the best conclusions with regard to the pathology and treatment, which the phenomena of the disease and other circumstances connected with it will enable him to do. I profess not to have aspired beyond this, and if I have fallen short of my expectation it has arisen from circumstances without my control: being conscious therefore of having been influenced only by the purest motives, I have no hesitation in submitting this feeble effort, imperfect as it is, to the inspection of a liberal and enlightened Faculty, trusting, not to its opinion, but to the generosity of those, whose knowledge of the disadvantages under which medical theses are generally written, can but prompt them to criticise with lenity, the humble attempt of one, who with due deference, confides in the liberality and justice by which their opinion will be influenced.

Cholera Infantum, is a disease of children, which

prevails very extensively, in those months in which the scorching heat of the Sun is most powerfully felt, throughout the United States, in which country alone it seems to have occurred. It is especially the offspring of warm weather, that it has been called the disease of that season, and Dr Rush says that "its frequency and danger are always in proportion to the heat of the weather". It makes its appearance at different periods, occurring in Charleston as early as to have obtained the name of the "April and May disease"; while in Philadelphia it is said rarely to appear earlier than June, but that it occasionally continues untill the cooler days of Autumn, or sometimes till the appearance of frost, becoming more tractable as the season advances. This malady which exerts so destructive an influence over the Infante part of the population of our Cities, attacks Children from the age of two or three weeks to that of two years; but is said to be peculiarly apt to seize upon them during the second summer, at which time nature is wont to exert herself for the developement of the teeth, so much so that this period has become proverbial with mothers, in

reference to this disease alone, as being a most important era in the lives of their tender offspring. This disease has generally been thought peculiar to large towns, but there are exceptions to this rule; many cases occurred within the practice of my Uncle Dr D J Claiborne of Virginia, in the summer of 1822, several of which came under my own observation. It occurred there in those districts of country in which the bilious remitting fever was most prevalent; arising no doubt from the heat of the season, from improper ingesta, and from the false tenderness of mothers, who from a solicitude of defending them against cold and exposure keep them cooped up, deprived of the privilege of breathing fresh air and restricted from the enjoyment of exercise, which are so eminently conducive to health.

Although this disease is said to occur most frequently in the miserable habitations of the poor, within the confined walls of which, the strictest attention is not always paid to cleanliness, and where from the nature of things they are exposed to the pernicious influence of bad diet and clothing, it is not to these alone that it is confined, for its ravages may be traced alike in the splen-



did mansions of opulence and plenty, and the dreary abodes of penury and want, and while the deplorable condition of the victims of poverty, renders them highly obvious to its influence, those who participate the smiles of fortune with all the advantages afforded by affluent circumstances, can almost be said to be less exposed.

Symptoms. Cholera Infantum sometimes begins with a diarrhoea, which continues for several days without any other symptoms of indisposition; but more frequently the child, apparently in the enjoyment of uninterrupted health, is suddenly seized with a violent vomiting and purging, attended with a high fever. The matter discharged from the stomach and bowels is generally yellow, dark or green, at first, but soon becomes light and watery, so as merely to tinge cloths of a dingy yellow colour. These are occasionally mixed with a little white mucus, in other cases the mucus is mixed with a whitish pulpy substance, and perhaps streaked with green or yellow matter, those from the stomach frequently consist of slime or milk, in a highly acrid condition; the stools are sometimes slimy and bloody; most frequently there is a deficiency

of bilious matter, as is indicated by the passage of white stools for several days in succession; they are generally large in quantity and extremely foetid, though sometimes without smell. The children appear to suffer much, shewing evident signs of restlessness and uneasiness in every posture. The pulse is usually small, quick, weak and frequent, though it is sometimes full. The epigastrium is tender and more or less tumid; the tongue is generally white but occasionally in the early stage dry and polished; its appearance is frequently natural, aphthae, however, often make their appearance after fifteen or twenty days. The head and body are unusually warm, while the extremities are of a natural temperature, or incline to be cold. The skin is dry and harsh, and from the rapid emaciation very much shriveled, particularly on the inside of the thighs, which are remarkably shrunken and wasted in severe cases; the fat being rapidly absorbed, leaves the skin relaxed and pendulous; This is so important a symptom that the restoration of an even smooth surface, is looked upon as an indication of convalescence. The fever is of the remitting kind and discovers evident exacerbations, especially in the evening.

The head is so much affected, in some instances, as to produce not only the symptoms of delirium, but even mania, in so much that they ~~throw~~ their heads backwards and forwards, and sometimes make attempts to scratch and bite their parents, nurses and even themselves. A swelling frequently occurs in the abdomen, and in the face and limbs; the thirst, throughout the whole of the disease, is exceedingly distressing. The temper is highly irritable, and the patient has a piteous discontented moan, it is very rare that he enjoys a good night's sleep. The countenance is pale, wan and languid; the eyes appear sunk and hollow, with a dull looking film spread over the cornea, and the patient sleeps with the lids half closed; such is the insensibility of the system, that flies alight on the balls of the eyes, without exciting the slightest motion to remove them.

Debility and emaciation progress with such rapid strides, that twenty-four hours will sometimes produce the most alarming languor and exhaustion. Sometimes the vomiting continues without the purging, but most frequently the purging continues without the vomiting, through the whole course of the disease;

the vomiting is not generally an urgent symptom, seldom occurring after the first day, unless the patient eats or drinks too much, and then it is effected without much reaching or straining. The number of stools is surprisingly great, amounting in some cases to twenty, thirty or even more in twenty-four hours, but becoming less frequent as the disease assumes a chronic form, their passage is often preceded by termina and tenismus.

The disease sometimes proves fatal in a very short time, instances have been known, where it terminated in death in the space of twenty-four hours. Its duration, however, is varied by the season and by changes in the temperature of the weather. A cool day frequently abates its violence, and disposes it to a favorable termination. It often continues with alternate changes from better to worse, for six weeks or two months. Where the disease has assumed a chronic form, the approach of death is gradual and attended by many premonitory symptoms; There is such an extreme emaciation of body, that the bones come through the skin, livid spots, singultus, convulsions, a strongly marked hydropic countenance, and a sore mouth, generally precede the fatal event, few children recovering after the appearance

of these symptoms

Causes. The predisposing cause appears to be debility arising from the vitiated air of Cities, from scanty diet, and confined ill-ventilated houses, with inattention to cleanliness; but, above all, the excessive heat of summer, which, while it impairs the tone and energy of the digestive system, increases its irritability and renders it more susceptible of morbid impressions. These, together with the natural predisposition of infants to disease, arising from the various modes of action not being fully established and confirmed, and the digestive system having an excessive function to perform for the development and growth of the several parts of the body, appear sufficient to render them obnoxious to the exciting causes. These are vicissitudes of weather or sudden transitions from heat to cold or from dryness to humidity, exposure of the body when hot to a current of air, irregularity of clothing, or whatever tends to check perspiration and determine to internal organs; improper ingesta or food taken in too large a quantity or of an improper quality. It is evident, that the digestive apparatus which has been hitherto accustomed to act only upon

that diet which nature has provided for the nourishment and growth of their tender frames, is as yet inadequate to the changing and assimilation of the more complicated and heterogeneous articles, which the more powerful digestion of the adult alone can overcome, and that consequently disease must result from their use. A belief that the irritation of dentition is an exciting cause appears to receive support from the following considerations. First, that even in winter dentition is attended by symptoms which occur in this disease, particularly imperfect digestion, as is shown by looseness of the bowels with unnatural stools, and fever. Secondly, that Cholera Infantum occurs most frequently and proves most fatal in the second summer, at which time dentition is generally at its height. Thirdly, few children have it after this period, and Fourthly, those who get their teeth regularly and at the proper season are rarely affected. It will be proper to recur here to the general and local irritation which it produces, and which, by constitutional peculiarity is determined to particular parts: thus, coughs, perverted vision, hydrocephalus internus, and most affections of the Alimenta-

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1. The first part of the book is devoted to a description of the various kinds of rocks which are found in the country. The author has been very particular in his descriptions, and has given many interesting particulars of the structure and composition of the rocks. He has also given a list of the minerals which are found in the country, and has described the various kinds of fossils which are found in the rocks.

2. The second part of the book is devoted to a description of the various kinds of plants which are found in the country. The author has been very particular in his descriptions, and has given many interesting particulars of the structure and composition of the plants. He has also given a list of the minerals which are found in the country, and has described the various kinds of fossils which are found in the rocks.

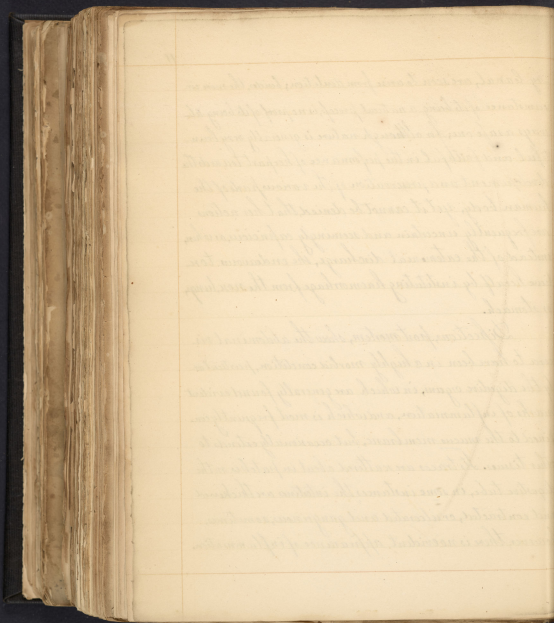
3. The third part of the book is devoted to a description of the various kinds of animals which are found in the country. The author has been very particular in his descriptions, and has given many interesting particulars of the structure and composition of the animals. He has also given a list of the minerals which are found in the country, and has described the various kinds of fossils which are found in the rocks.

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5. The fifth part of the book is devoted to a description of the various kinds of fossils which are found in the rocks. The author has been very particular in his descriptions, and has given many interesting particulars of the structure and composition of the fossils. He has also given a list of the minerals which are found in the country, and has described the various kinds of fossils which are found in the rocks.

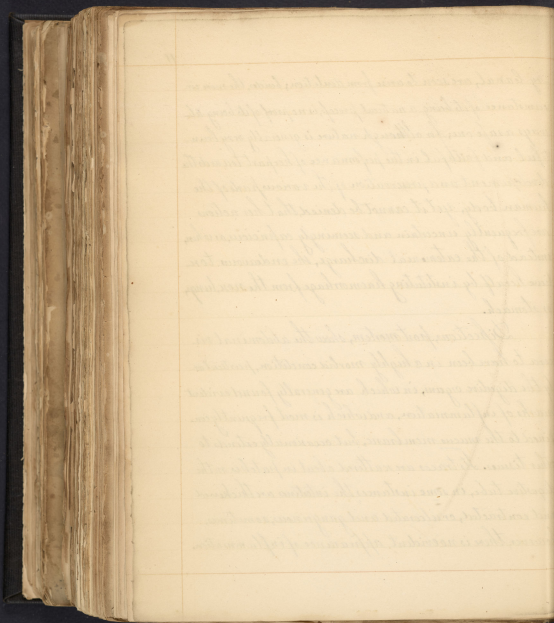
-ry banal, are seen to arise from dentition; besides, the mere circumstance of its being a natural process, is no proof of its being always a safe one; for although nature is generally very beautiful and faithful in the performance of her part towards the development and preservation of the various parts of the human body, yet it cannot be denied, that her actions are frequently uncertain and seemingly capricious, as when, instead of the catamenial discharge, she endeavours to relieve herself by instituting hæmorrhage from the nose, lungs, or stomach.

Dissections, post mortem, shew the abdominal viscera to have been in a highly morbid condition, particularly the digestive organs, in which are generally found evident marks of inflammation, and which is most frequently confined to the mucus membrane, but occasionally extends to other tissues. Its traces are scattered about in patches on the digestive tube, in some instances the intestines are thickened and contracted, or ulcerated and gangrenous, sometimes, however, there is no evident appearance of inflammation.

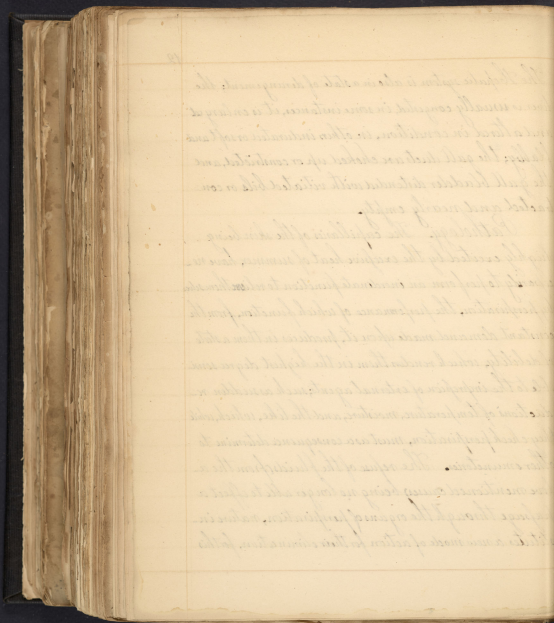


The Hepatic system is also in a state of derangement; the liver is usually congested, in some instances, it is enlarged and altered in condition, in others indurated or soft and flabby; the gall ducts are choked up or constricted, and the gall bladder distended with vitiated bile or contracted and nearly empty.

Pathology. The capillaries of the skin being highly excited by the excessive heat of summer, have necessarily to perform an inordinate function to relieve themselves by perspiration, the performance of which function, from the constant demand made upon it, produces in them a state of debility, which renders them in the highest degree sensible to the impression of external agents, such as sudden reductions of temperature, moisture, and the like, which, while they check perspiration, must as a consequence determine to other emunctories. The refuse of the fluids from the above mentioned causes, being no longer able to effect a passage through the organs of perspiration, nature institutes a new mode of action for their elimination, for this



purpose the circulating fluids are thrown upon the intestinal tube, which, being already in a state of irritability, becomes excited, and the healthy action of the vessels being disturbed, instead of the natural secretion, they pour out now a more abundant quantity of a serous fluid, thus giving rise to watery discharges. The irritation of the stomach, arising either from the new office which it has to perform, from improper ingesta, from the irritation of dentitions, or some other cause, is communicated by the intimate connexion existing between it and the liver to that organ, which being already in that state of excitement in which it is wont to be in hot weather, irritation ensues. This irritation being at first in a smaller degree, causes it to secrete bile in a large quantity and of a highly vitiated quality, which gives rise to vomiting and purging and adds to the existing state of irritation of the primæ viæ, while the liver itself becomes so highly irritated, that, instead of its secretion being still farther increased, a total suppression and congestion result. Thus conditioned the irritation is extend.



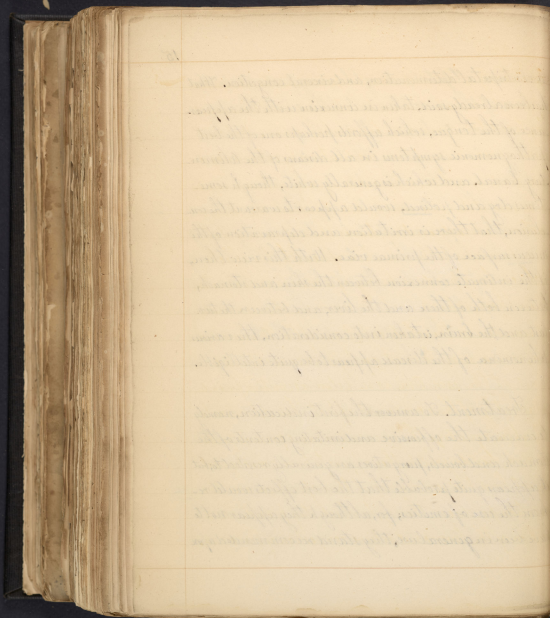
-ed more or less to the neighbouring parts, producing
spasm of the muscular coat of the alimentary canal,
and, in some instances, affecting the pancreas, spleen,
and peritoneum, and if the remedies administered
fail to change this state of things, inflammation re-
sults with all its consequences. That there is hepatic
congestion appears evident, from the fact, that the stools
throughout nearly the whole duration of the disease,
are void of that colour, for which they are dependent
on a proper biliary secretion, the restoration of which
appears to be intimately connected with the recovery
of the patient. The delirium and other cerebral dis-
turbances so common in Cholera Infantum, appear
to be sympathetic or symptomatic of what is going on in the
liver and other abdominal viscera, and the dry, harsh skin
which is a very important symptom, seems to be referable to
the same cause. The small, quick, and weak pulse which
most generally predominates in this disease, together with
the coldness of the extremities, would also appear to indicate

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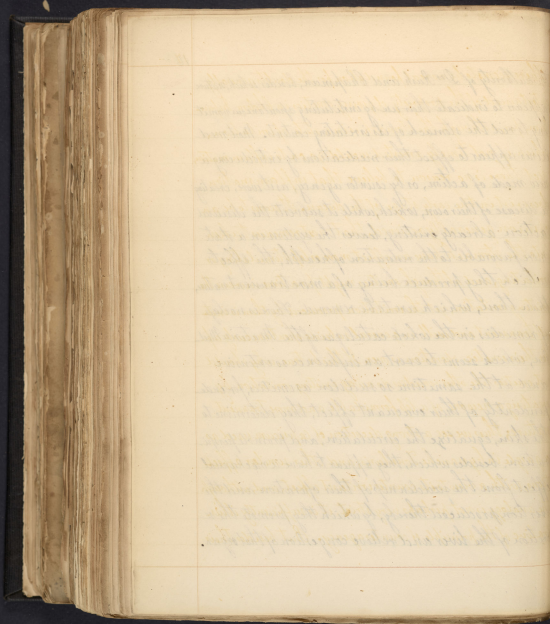
a centripetal determination, and visceral congestion. What has been already said, taken in connexion with the appearance of the tongue, which affords perhaps one of the best pathognomonic symptoms in all diseases of the alimentary canal, and which is generally white, though sometimes dry and polined, would appear to warrant the conclusion, that there is irritation and depravation of the mucous surface of the primae viae. With this view then, if the intimate connexion between the skin and stomach, between both of these and the liver, and between the two last and the brain, is taken into consideration, the various phenomena of the disease appear to be quite intelligible.

Treatment. To answer the first indication, namely to evacuate the offensive and irritating contents of the stomach and bowels, purgatives are generally resorted to; but it appears quite probable that the best effects would result from the use of emetics; for, although they appear not to have been in general use, they stand recommended upon

The authority of Drs Rush and Chapman, besides which, nature appears to indicate their use by instituting spontaneous vomiting to rid the stomach of its irritating contents. Most medicines appear to effect their medications by introducing a new mode of action, or by counter agency, as it were, creating a disease of their own, which, while it subverts the diseased action already existing, leaves the system in a state more favorable to the restoration of health, the effects which they produce being of a more transient nature, than those, which are to be removed. There is no class of remedies in the whole catalogue of the *Materia Medica*, which seems to exert an influence so extensive and at the same time so sudden as emetics, for independently of their evacuant effect, they determine to the skin, equalize the circulation, and promote perspiration, besides which, they appear to have a mechanical effect from the suddenness of their operation and the exertion produced thereby, by which they promote the secretion of the liver and relieve congestion of that organ.



There seems to be no real foundation for the doubts generally entertained of the propriety of giving emetics in cholera infantum, for, although the stomach is in a state of irritation, which, if not timely arrested would go on to inflammation, yet there is no reason to believe that inflammation does exist in the early stage of the disease. It seems to be an opinion generally received, that most remedies taken into the stomach have an effect more or less stimulating or irritating, and although emetics might for a time increase the existing irritation, yet the irritation produced by them is itself transient and will in general subside spontaneously after their emetic operation is over. If this be true, why should not emetics like other remedies do away existing irritation by creating a new one of a less formidable and more transient nature; thus we see a strong decoction of capricum used as a gargle in *lynanche Tonsillaris*, and other similar affections, with a view to its counter irritant effect, and, although the analogy is not perhaps very strict, it is sufficiently illustrative of the principle of counteragency. But besides their

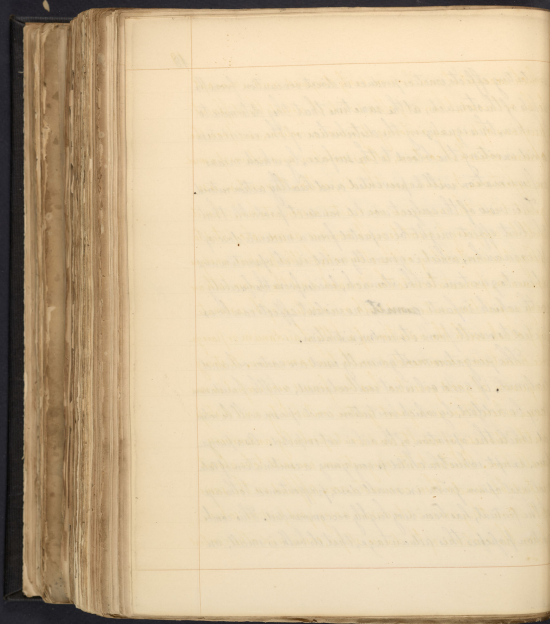


irritating effects, emetics produce a direct evacuation from the vessels of the stomach, at the same time that they determine to the skin, thus equalizing the distribution of the circulation and inviting the blood to the surface, by which means inflammation will be prevented and healthy action restored.

This view of the subject would render it probable that the best effects might be expected from a moderate dose of *Spicaeanha*, which is generally mild in its operation and appears to give tone to the stomach, besides, from the facility with which infants *gronit*, no violent effects can be expected to result from its administration.

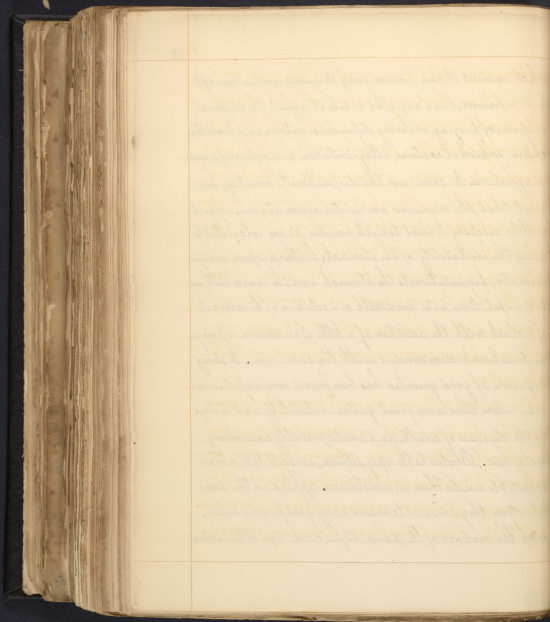
The purgatives most generally used are castor oil and Calomel, if castor oil is not well retained, a little Laudanum may be added, by which irritation and spasm will be relieved, while the operation of the oil is not impeded. As a purgative, except where the child is very young a combination of Calomel and opium given in small doses, proportioned to the age of the patient, has been very highly recommended. This combination possesses this advantage, that its bulk is small, on

which account it can be more easily disguised and is more apt
 to be retained, than any other, while it affects the different
 purposes of purging, restoring depraved secretions, and from the
 opium which it contains, allays irritation and relieves spasmod-
 ic affections. In some cases the disposition to vomiting is so
 great, that the medicines are rejected as soon as taken, when it
 will be necessary to resort to such remedies as are calculated to
 allay the irritability of the stomach, for this purpose, and cly-
 stemata, fomentations to the stomach and the warm bath are
 very useful, lime-water and milk or a solution of bi-carbonate
 of potash with the addition of a little Laudanum or pava-
 ric have been recommended with the same view. A strong
 infusion of good green tea has been found very useful in some
 cases, where there was great gastric irritability and distress
 in the diseases of adults, and would probably answer very
 well here. Blisters to the epigastrium, are said to be almost
 infallible under these circumstances. applied in the same
 situation they are said to answer a very good purpose when,
 from the violence of the disease, stupor, coma and other cerebral



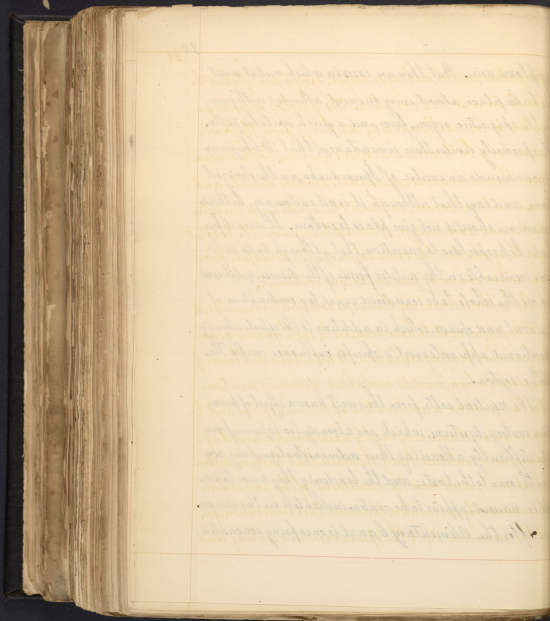
symptoms arise. But there are cases in which violent vomiting takes place almost every moment, attended with pain in the epigastric region, fever and a quick irritable pulse. It is precisely under these circumstances, that Dr Chapman recommends an emetic of *Spicacuanha*, in the strongest terms, and says that although it is not customary, he thinks experience should not give place to custom. It would perhaps be proper here to mention, that, although castor oil is very serviceable in the milder forms of the disease, yet it is not upon the whole to be considered equal to a combination of calomel and opium, which in addition to the effects already mentioned appear to exert a specific influence over the Hepatic system.

The neutral salts, from their well known effect of promoting watery discharges, which are already too copious; from the difficulty attending their administration, being very loathsome to the taste; and the tendency they have to produce nausea, appear to be contra-indicated in this disease. After the Alimentary Canal is once fairly evacuated



purgatives will be no longer useful, except merely to keep the bowels in a soluble condition. The practice of giving purgatives as long as there is any discharge from the bowels, seems to be both erroneous and injurious, for the evacuations themselves are so copious as to produce debility and emaciation too soon, without the assistance of purgative medicines, and, indeed, it would be unreasonable to expect anything else but the exhaustion of a tender infant from an active course of purging so long continued.

After the Alimentary Canal is completely evacuated, it will be proper next to have recourse to such remedies as are calculated to allay irritation, to restore the equilibrium of the circulation, and to reestablish deranged secretions. For this purpose a combination of Balsamul, opium and Sp. scaccanba, stands very highly recommended, and it appears justly entitled to all the praise that has been bestowed upon it; and from the constituents of this preparation it is eminently calculated to answer this indication, for, at the same time that the opium exercises a soothing and



tranquillizing power over the highly irritated state of the stomach, it cooperates with the *Specacuantha* in exerting its well known influence of determining to the skin, and inducing perspiration, while the calomel by its specific relation to the liver, reestablishes the suppressed or depraved secretion of that viscus, and thus tends to restore a natural state of things in the alimentary canal. The following prescription is given by Dr Chapman for the administration of the above medicines, *Rx. Calomel* ij grs *Specacuantha* ij grs and opium j grain to be rubed together and divided into eight powders, of which one is to be given every three or four hours *pro re nata*. Where, from the violence of the pain and irritation, frequent evacuations are produced, it will be proper to increase the opium, or what is still better, to administer anodyne injections, every three or four hours. Calomel given in minute doses according to the age of the little patient, from its well known effects, which it would be unnecessary here to repeat, promises to do as much or more than any other remedy towards the cure of this dreadful disease. As tending to cooperate with the above measures there are some

edies which make a direct impression on the skin, which it will be of the first importance to employ, of these, the warm bath made simply of heated water, or impregnated with salt, brandy or bitter herbs, is perhaps entitled to the preference; for while it excites cuticular action and promotes perspiration, it equalizes excitement and greatly ameliorates the condition of the little sufferer; but, as the effects of the warm bath are evanescent, it should be applied twice or at least once a day as long as it is indicated.

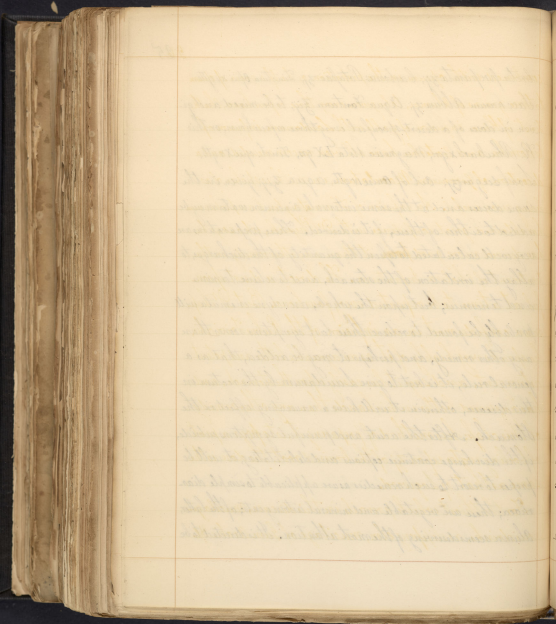
To answer the same end frictions with tincture of cantharides and turpentine, have been used in extreme cases, blisters applied to the stomach, abdomen or extremities according to circumstances, have also been directed for similar purposes. They are applicable to every stage of the disease, and seem calculated, by producing a general diffusion of the circulation, to do much good in the management of the case. As auxiliaries to the above remedies, a flannel shirt made to fit so as to be in contact with the skin, and long stockings made of lamb's wool to guard against vicissitudes of weather, and keep the skin in a perspirable condition, should not be neglected.

[Faint, illegible handwriting, likely bleed-through from the reverse side of the page.]

From its tendency to equalize the circulation, to reduce general action, and, thereby, to lessen the irritation and prevent inflammation of the alimentary canal, blood-letting should be practised, where it is called for by febrile symptoms, or even where it is admissible upon general principles, and judged expedient by the practitioner for the relief of other symptoms. Dr Rush says that he applied the lancet with great freedom in this disease after the fatal epidemic of 1793, and Dr Chapman recommends its use in very confident terms, stating that he has seen fatal consequences result from a neglect of its employment.

After the duration of this disease for some days, the time varying in different cases, diarrhoea supervenes accompanied with tormina and tenesmus; at this stage of the disease the stomach is so much debilitated as to prevent digestion, and from the great irritability of that viscus, the food is rejected as soon as taken. In this state of things alkaline and cretaceous preparations are used in various combinations. The following have been recommended by Dr Chapman, viz. R^a

Ercta preparata ℥ij, *Carbonas Potassae* ℥ij, *Tinctura Opii* xvj℥ss,
Saccharum Album ℥ij, *Aqua Fontana* ℥ij, to be mixed and gi-
 ven in doses of a desert-spoonful every three or four hours, or this
R. Rhubarb x gr, *Magnesia Alba* ℥x gr, *Tinct. opii* xvj℥ss,
Loaf sugar ℥ij, *Oil of Anise* i℥ss, *aqua* ℥ij; given in the
 same doses and at the same intervals, cinnamon water may be
 added to either of these, if it is desired. These preparations are
 very well calculated to lessen the quantity of the discharge, to
 allay the irritation of the stomach, and to relieve tomina
 and tenesmus; but upon the whole, anodyne enemata will
 probably be found to relieve these last symptoms sooner than
 any other remedy, and perhaps it may be added, that as a
 general rule, it is best to give Laudanum by the rectum in
 this disease, otherwise it will have a nauseating effect on the
 Stomach. After the acute and painful symptoms subside,
 if the discharge continue copious and debilitating, it will be
 proper to resort to such remedies as are applicable to simple dia-
 rrhoea; these are vegetable and mineral astringents; of the latter,
 Alumina seems deserving of the most attention. It is directed to be



combined with opium in the proportion of half a grain of opium to three grains of alumina, to be given every three or four hours, Chalk, Tinct. of Kino, infusion of galls with Laudanum, infusion of Colomaba and Catechu have all been recommended, and a decoction of *Geranium Maculatum*, in milk is spoken of as being very useful. An infusion of *Hamamelis Virginiana* has obtained a great confidence with Dr Physick, who says he has derived more good from it than any other remedy in the treatment of Cholera Infantum. He directs a desert spoonful at a time to be repeated every four hours. But Dr Chapman confides most in an infusion of the *Rubus Trivialis*, he speaks very highly of it as an agreeable better and potent astringent, and says it lies easily upon the stomach, and has answered better in his hands than any other remedy of this class; his method of preparing it, is to pour a pint of boiling water upon ʒj of the bruised root, the dose is the same as that of Logwood.

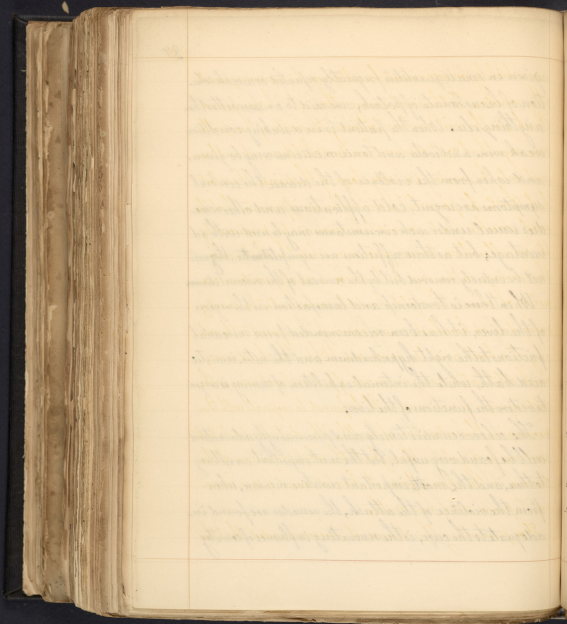
For the thirst which prevails in this disease, mucilaginous drinks, as slippery elm, mucilage of Gum Arabic &c.

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given in small quantities frequently repeated or a weak solution of bicarbonate of potash, are said to answer better than anything else. When the patient is in a sinking condition weak wine and water and tonic medicines may be given, and when from the violence of the disease the cerebral symptoms are urgent, cold applications and other remedies usual under such circumstances may be used with advantage, but as these affections are symptomatic, they will not be entirely removed but by the removal of the visceral disease.

When there is tenderness and tumefaction in the region of the liver, it has been recommended to use mercurial frictions to the right hypochondrium and the nitro-muriatic acid bath, while the internal exhibition of mercury is urged to restore the functions of the liver.

The above remedies timely and perseveringly administered will be found very useful, but the most important auxiliary to these, and the most important curative measure, where from the violence of the attack, the remedies are found inadequate to the cure, is the renovating influence of country



air, which by common consent has obtained the supremacy over all other remedies. To this point, among others, Dr Chapman and Rush give the most positive testimony, the latter of these gentlemen says that "out of many hundred children, whom I have sent into the country, in every stage of the disease, I have lost but three". So powerful is the influence of pure air, that the most sensible effects are said to be immediately produced by it, an alteration taking place even while the child is in the carriage on the way; but, where a country residence cannot be obtained, the child should be carried into the country every day on horseback, or in a carriage, or exposed to the riding of a boat and the river air. When the child is very much debilitated sangaree made of port or claret wine, or the cold infusion of cinchona will be found to cooperate with these measures in the restoration of health. The diet should be light and easily digestible throughout the whole duration of the disease; in the chronic form, it should consist of sage, arrow-root, tapioca and new milk.

For preventing this disease, it is recommended that the

child should not be weaned during the first year after birth, as no food appears so appropriate at this age, as the mother's milk, for it is said that a departure from this always affects the state of the alimentary canal, and that children rarely escape this disease when weaned thus early. The daily use of the cold bath, from the tonic effect which it has upon the general system, is of the first importance as a preventative. Flannel should be worn next to the skin, and it is highly necessary both to prevent and remedy this disease, to pay the strictest attention to cleanliness. When the child is old enough to eat, unripe fruit and all excesses in diet of whatever kind should be avoided, milk and the farinaceous articles will constitute perhaps the best diet; It has been advised, occasionally to allow them a little animal food, for this purpose salted meat is recommended, which appears to be the most wholesome of this kind for adults. The use of good old wine in summer has been thought beneficial, and it is said that the children of persons in easy circumstances, who sip occasionally with their

parents whose mains of a glass of wine after dinner, are much less
 subject to this disease, than the children of poor people, who are
 without the benefit of that article of diet. In the prevention of
 this disease, a strict observance of regular diet should be en-
 joined upon the nurse, as there is no doubt that an improper
 indulgence on her part will materially affect the health of the
 child. During dentition, if there be inflammation of the gums,
 it is directed that they should be freely lanced, this is un-
 doubtedly important from the bad consequences that have been
 seen to result from this cause. After all, however, it is said the most
 effectual preventive will be found in a removal of the child to
 the country, before the arrival of that season at which the disease
 is known to prevail, a healthy position should be chosen for a
 residence, and the child permitted to take free and regu-
 lar exercise on horse back, or in a carriage, and to inhale unre-
 stricted the pure and enlivening air which can be supplied only
 by a well selected rural abode, where peace, retirement, ease of
 manners and simplicity of diet, concur in the production of health,
 happiness and the nearest approach to contentment.

